



TURFGRASS SEED 1986

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EXPLANATORY NOTES

Cultivars are listed in approximate order of merit for intensive turf use, except where stated to be in alphabetical order. For any particular purpose, decide on the required qualities; then obtain one of the cultivars with the best ratings (or combination of ratings) for those qualities. For perennial ryegrass, the chart below Table 7 suggests the columns to consult for each particular use, with the most important features emphasized by solid circles. Often there will prove to be several cultivars of virtually equal merit for the use in question: the final choice can then be made according to price or other commercial factors.

Merit ratings etc. used in tables

- A = best
B = average
C = worst
- } Normal merit ratings for the quality defined at the top of each column. (Compare ratings only within columns, not between columns or between tables.)
- D,E,F = very low ratings used in some tables.
- = insufficient data for rating.
() = rating provisional (scanty or conflicting data) or under review.
LA = limited availability of seed in 1986.

Seed of all cultivars named should be available in the UK in 1986, but in smaller amounts where shown as LA. Tables give abbreviated names of maintainers (responsible for basic seed) and UK agents: the full names and addresses of UK agents are on p.12.

Latin names of the diseases mentioned are:-

red thread	<u>Laetisaria fuciformis</u> (previous name <u>Corticium fuciforme</u>)
dollar spot	<u>Sclerotinia homoeocarpa</u>
leaf spot, of smooth-stalked meadow-grass	<u>Drechslera poae</u>

BENTS (Table 1 opposite)

Table 1 compares cultivars of the four types (species) of bents: note that 'Highland' browntop (the traditional "Oregon browntop") is so different from other browntop bents that a distinct species name, Agrostis castellana, is used. Seed is much more readily available and cheaper than that of other cultivars in the Table, and in spite of some disadvantages 'Highland' is quite acceptable for most UK situations in which bent is sown.

TABLE 1. CULTIVARS OF BENT AVAILABLE IN 1986 (see text on p.2)

Species and cultivar	Compactness (sward density)	Fineness of Leaf	Summer greenness	Winter greenness	Freedom from red thread	Short growth	Maintainer and UK agent
BROWNTOP BENT (<i>Agrostis tenuis</i> and <i>A. castellana</i> (see Notes 1 and 2))							
<i>A. castellana</i> Highland	C	C	B/C	A	B	C	Oregon State Univ.
<i>A. tenuis</i> Bardot	A	B	B	B	A	A	Barenbrug (Goldsmith)
Saboval (LA)	B	B	B	A	A	B	NSDO (Hurst)
Tracenta	B	B	B	B	A	B	Mommersteeg
Allure (LA)	B	B	(B)	(B)	-	(B)	Joordens (Sinclair)
Tendenz (LA)	(B)	(B)	-	(C)	-	(B)	Steinach (Br. Seed Ho.)
Eko (LA)	C	C	(C)	(A)	A	(B)	Swedish Seed (Farmacre)
Boral	C	C	(B)	C	(B)	(C)	Weibull (Miln Marsters)
CREEPING BENT (<i>A. stolonifera</i>)							
Carmen (LA)	A	B	(B)	(B)	A	(B)	Mommersteeg
Penncross	(A)	B	B	B	A	B	Penncross Bentgr. Assn.
Penneagle	(A)	-	(B)	-	-	-	(Br. Seed Ho.)
Emerald	B	B	B	C	A	B	Weibull (Miln Marsters)
Prominent	B	B	B	C	A	B	Zwaan (Picard)
VELVET BENT (<i>A. canina</i> ssp. <i>canina</i>)							
Kingstown (LA)	A	A	A	C	B	(A)	Univ. of RI (Goldsmith)

Note 1. To improve the compactness and summer appearance of 'Highland', replace some of it with a more compact browntop, or indeed 'Kingstown' velvet bent, to the extent of about 30-40% (or perhaps 50%) of the bentgrass fraction of a mixture.

Note 2. Two metal-tolerant cultivars of browntop bent are produced in small quantities by NSDO for reclamation work - 'Parys Mountain' (copper-tolerant) and 'Goginan' (tolerant of lead and zinc).

TABLE 2. CULTIVARS OF RED FESCUE AVAILABLE IN 1986 (see text on p.6)

NB. There are often several cultivars of virtually equal merit for any particular use: final choice can be made according to price or other commercial factors.

Cultivar	Compactness (A-D)	Tolerance of 5 mm mowing	Freedom from red thread spot	Winter colour	Summer colour	Short growth (A-F)	Maintainer and UK agent
CHEWINGS FESCUE (No rhizomes: 42 chromosomes)							
Frida	A	A	A	(A)	A	B	Zelder (Br. Seed Ho.)
Barfalla	A	A	A	B	A	C	Barenbrug (Goldsmith)
Waldorf	A	A	A	C	A	C	vd Have (Johnson)
Center	A	(A)	(A)	(C)	(A)	(B)	Cebeco (Hurst)
Lifalla	(A)	(A)	(A)	(A)	(A)	(C)	DSV (Nickerson)
Tamara (LA)	A	(A)	A	(B)	(A)	C	Danish PB
Agram (LA)	A	(A)	A	(B)	(A)	C	Zelder (Cundy)
Scarlet	A	A	A	B	(A)	D	vd Have (Mommersteeg)
Menuet	A	A	B	(B)	(A)	D	Joordens (Sinclair)
Lustre	A	A	B	(A)	(B)	D	Zwaan (Picard)
Atlanta	A	A	B	C	A	C	vd Have (Sharpe)
Mary	(A)	-	(B)	(C)	(A)	(C)	Mommersteeg
Checker	B	A	A	A	A	D	Oregon S U (Br. Seed Ho.)
Wintergreen	B	A	A	A	B	D	Barenbrug (Goldsmith)
Highlight	B	B	A	A	B	C	v Engelen (Pope)
Encota	B	B	A	A	B	C	v Engelen (Hurst)
Ivalo (LA)	B	(B)	(A)	(A)	(B)	C	Danish PB
Banner	B	(B)	(A)	(B)	B	C	Burlingham (Johnson)
Koket	B	B	A	B	B	D	Mommersteeg
Tatjana (LA)	(B)	(B)	B	(A)	(B)	D	Danish PB
Eboli (LA)	(B)	-	(A)	(B)	(C)	(D)	Danish PB
Jamestown (LA)	B	B	B	C	A	C	Lofts/B'brug (Goldsmith)
Lirouge	(B)	(B)	(B)	(B)	(B)	(D)	DSV (Nickerson)
Cascade	C	C	B	C	C	E	Oregon State Univ.

Cultivar	Compactness (A-D)	Tolerance of 5 mm mowing	Freedom from red thread	Freedom from - dollar spot	Winter colour	Summer colour	Short growth (A-F)	Maintainer and UK agent
SLENDER CREEPING RED FESCUE (Slender or few rhizomes: 42 chromosomes)								
Dawson	A	A	C	B	A	A	D	vd Have (Johnson)
Oriflamme	(A)	(A)	(B)	(B)	(A)	(A)	D	Nickerson (Sharpe)
Logro (LA)	(A)	-	-	-	-	(A)	D	Queen's Univ. (Br. Seed Ho.)
Sonnet	(B)	(A)	A	(A)	(B)	(A)	E	Joordens (Sinclair)
Merlin	B	B	B	(A)	(B)	(A)	C	NSDO (Johnson)
Polar (LA)	B	B	B	B	A	A	D	Weibull (Miln Marsters)
Artist	(B)	(B)	(B)	-	(B)	(B)	(C)	Mommersteeg
Recent (LA)	(B)	-	(B)	-	(B)	(A)	-	Cebeco (Hurst)
Faramir (LA)	(C)	(C)	(B)	(A)	(B)	(A)	(C)	Danish PB
Aberystwyth S.59	C	C	C	A	A	B	E	NSDO (Picard)
STRONG CREEPING RED FESCUE (Many strong rhizomes: 56 chromosomes)								
Ensylva	C		(B)		A	(B)	F	v Engelen (Pope)
Pernille	C		(B)		(B)	(B)	E	Danish PB (Hurst)
Boreal	C		C		B	B	E	Canada Dept. of Agric.
Tridano	(D)		(B)		(B)	(B)	(E)	Danish PB
Ruby	D	No cultivars suitable	C		B	C	E	vd Have (Johnson)
Moncorde	D		C		C	B	E	Mommersteeg
Novorubra	D		C		B	C	F	Mommersteeg
Dasas	D		C		B	C	F	Danish PB
NFG Theodor	(D)		C		(C)	(C)	(E)	DSV (Nickerson)
Roemer	D		(C)		(B)	-	(F)	v Engelen (Hurst)
Envira (LA)								
Other less compact cultivars - Agto (LA) (v Engelen:Pope), Bargaena (Barenbrug:Goldsmith), Echo (Daehnfeldt:Picard), Engina and Enzet (v Engelen:Pope), Rapid (Zwaan:Picard), Reptans (Weibull:Miln Marsters), Rubin (LA) (Ohlensens:Farmacre) and Rubina Roskilde (Danish PB)								

RED FESCUES (CHEWINGS FESCUE AND CREEPING RED FESCUES)

(Table 2 on pp.4-5)

Criteria for selection.

Fine turf mown at 5 - 10 mm: compactness, persistence under 5 mm mowing, seasonal colour as appropriate.

Medium-fine sports turf, mown at 10 - 20 mm: compactness.

(Generally, cultivars with the most shoots per unit area are the most wear-tolerant, ie good Chewings and slender creeping red fescues.)

Heavy-duty sports turf mown at 20 mm or more: no fescues are good under heavy football wear, and for such turf the value of fescue is debatable. If fescue is used, half (at least) should be compact Chewings fescue, and the rest rhizomatous, ie creeping, red fescue (either slender creeping red fescue or the most compact cultivars of strong creeping red fescue).

Low maintenance amenity turf: short growth, freedom from red thread, acceptable colour throughout the year. Chewings fescue is usually best but slender creeping red fescues have some special advantages, eg 'Dawson', 'Merlin' and 'Polar' are tolerant of salt (NaCl) and 'Merlin' is also tolerant of lead and zinc. All these also keep good colour in drought.

MISCELLANEOUS FESCUES

TABLE 3. CULTIVARS OF MISCELLANEOUS FESCUES AVAILABLE IN 1986

Species, type and turf use	Cultivar (alphabetical)	Maintainer and UK agent
HARD FESCUE: good cultivars, free of red thread. matching Chewings fescue under close mowing; usable in fine turf in v. dry or infertile conditions	Biljart Crystal Scaldis Tournament (LA) Valda (LA)	Mommersteeg Mommersteeg vd Have (Johnson) Zelder (Br. Seed Ho.) Cebeco (Hurst)
[Triana (Danish PB) is less persistent under frequent mowing]		
FINE-LEAVED SHEEP'S FESCUE: unsuitable in texture for fine turf, v. susceptible to red thread: appropriate for low-maintenance natural grassland	Barok	Barenbrug (Goldsmith)

TABLE 4. CULTIVARS OF SMOOTH-STALKED MEADOW-GRASS AVAILABLE IN 1986 (see text on p.8)

NB. There are often several cultivars of virtually equal merit for any particular use: final choice can be made according to price or other commercial factors.

Cultivar	Wear tolerance	Compactness	Tolerance of 20 mm mowing	Freedom from leaf spot	Winter greenness	Fineness of leaf	Short growth	Maintainer and UK agent
Julia	A	A	(A)	(A)	(B)	(B)	(B)	Petersen (Pope)
Ampellia (LA)	(A)	(A)	(A)	A	A	B	(B)	Cebeco (Hurst)
Conni (LA)	(A)	(A)	(A)	A	(B)	(B)	(A)	Danish PB
Parade	A	B	(A)	B	A	B	B	vd Have (Johnson)
Fylking	B	(A)	(A)	(B)	B	A	B	Swedish Seed (Farmacre)
Entopper	A	(A)	(A)	A	C	C	(B)	v Engelen (Pope)
Sydspøt (LA)	A	A	A	B	C	C	A	Weibull (Miln Marsters)
Enmundi (LA)	A	B	A	A	(C)	C	A	v Engelen (Pope)
Nugget (LA)	(B)	A	A	A	C	A	A	Otto Pick (Pope)
Baron	B	B	(B)	B	C	A	A	Barenbrug (Goldsmith)
Glade (LA)	(C)	B	(A)	B	(B)	B	(A)	Jacklin (Br. Seed Ho.)
Monopoly	B	B	(B)	B	A	C	C	Mommersteeg
Charlotte	(C)	(B)	(A)	(B)	(B)	C	(A)	Danish PB
Geronimo	B	B	(B)	(C)	B	C	B	Mommersteeg
Mosa	B	(B)	-	(B)	(C)	(C)	(B)	Mommersteeg
Sving (LA)	-	(B)	-	(A)	(C)	(B)	(A)	Swedish Seed (Farmacre)
Aspen (LA)	-	(B)	-	(B)	(A)	(B)	-	Northrup King (Donath)
Aquila	C	B	(B)	B	B	(B)	B	vd Have (Johnson/Sharpe)
Sobra (LA)	-	(B)	(B)	(B)	(B)	(B)	(C)	Ohlsens (Farmacre)
Barones (LA)	C	C	(C)	B	(B)	A	A	Barenbrug (Goldsmith)
Harmony	(C)	(B)	-	C	(B)	C	(B)	Zwaan (Picard)
Golf (LA)	C	B	(B)	(C)	(C)	C	(B)	Swedish Seed (Farmacre)
Primo	C	B	(B)	C	C	C	B	Weibull (Miln Marsters)
Welcome (LA)	(C)	B	-	C	(C)	B	(B)	Zwaan (Picard)

[The table only includes cultivars likely to be considered for normal turf use, and omits those intended for agriculture.]

SMOOTH-STALKED MEADOW-GRASS (Table 4 on p.7)

Criteria for selection.

Football pitches: wear tolerance, compactness, winter greenness, freedom from leaf spot.

Close-mown sports turf: compactness and/or tolerance of 20 mm mowing, fineness of leaf, freedom from leaf spot.

Low-maintenance amenity areas without wear: freedom from leaf spot, compactness, short growth, winter greenness.

MISCELLANEOUS MEADOW-GRASSES

TABLE 5. MISCELLANEOUS MEADOW-GRASS CULTIVARS AVAILABLE IN 1986

Species and cultivar (alphabetical)		Maintainer and UK agent
ROUGH-STALKED MEADOW-GRASS	Dasas	Danish PB
	Omega Otofte	Danish PB
WOOD MEADOW-GRASS	Barnemo	Barenbrug (Goldsmith)
	Enhary	v Engelen (Pope)
	Novombra	Mommersteeg
	Pallas	Cebeco (Hurst)
FLATTENED MEADOW-GRASS	Reubens	Jacklin (Br. Seed Ho.)

TIMOTHY

TABLE 6. CULTIVARS OF TIMOTHY AVAILABLE IN 1986

Type and turf use	Chromo- some no.	Cultivar (alphabetical)	Maintainer and UK agent
Fine-leaved compact cultivars, tolerant of 10-12 mm mowing and conferring wear tolerance on fine fescue/bent turf	Diploid (14)	Aber. S.50 (LA)	NSDO
		Teno (LA)	Danish PB
Coarser-leaved less compact cultivars, with good wear toler- ance but not suited for mowing below about 15 mm	Tetra- ploid(28)	Deploy (LA)	Cundy
		Barvanti (LA)	B'brug (Goldsmith)
		Aber. S.48	NSDO (consortium*)
		Farol	Cebeco (Nickerson)
	Hexa- ploid (42)	Goliath	Mommersteeg
		Grasslands	
		Kahu	DSIR, New Zealand
		Intenso (LA)	Zwaan (Picard)
		Mirage (LA)	v Engelen (Pope)
		Motim	Mommersteeg
		Pecora (LA)	UCOPAC (Donath)

* Goldsmith/Hurst/
Picard/Sharpe.

PERENNIAL RYEGRASS (Table 7 on pp. 10-11, with chart of selection criteria below)

Intensively managed pitches: heavily worn pitches need enough fertilizer, especially nitrogen (N), for satisfactory initial establishment and good regrowth between seasons. "High N" in col. 1 means c.250 kg/ha per annum, on normal soils, not sands. Wear tolerance ratings for both N levels are based on UK results from winter games pitches and artificial football-type wear treatment, and similar data from abroad.

Close-mown sports turf: for tennis courts and similar turf mown at 8-10 mm, choose cultivars rated highly for fineness of leaf and shoot density. The same applies for the still closer mowing on cricket tables, although plants cannot survive very close mowing for long and need a period of more normal growth during the year.

Lower-maintenance sports turf: col. 2 applies to winter games on turf receiving "low N" (eg a seed bed dressing followed by c.75 kg/ha in spring prior to wear starting in autumn), but vigour and wear tolerance depend enormously on fertility. Differences in cover between high and low N far exceed those between the listed cultivars.

Low-wear ornamental turf: look chiefly for fineness of leaf, cleanness of cut (ie no frayed leaf fibres protruding from cut leaf ends) and freedom from red thread.

Minimal maintenance amenity areas: for minimal mowing, with little or no fertilizer given, look particularly for short growth and freedom from red thread. Note also that early-heading cultivars produce many more seed heads than late-heading cultivars (though any cultivar will produce unsightly heads in its due season, especially if mowing is infrequent, ill-timed or inefficient).

Rapid establishment: establishment during the first few weeks depends less on cultivar than on seed lot characters, particularly germination vigour and seed size. Thereafter, inherent cultivar characters assert themselves.

Reclamation and special uses: adverse conditions demand rapid initial establishment (dependent largely on seed lot: see above) and vigorous subsequent growth. Very slow growth (A in column 5) may therefore seem a disadvantage, although the wisest course is to choose a cultivar suited to the sward's eventual use and maintenance level, and provide good conditions (including seed bed fertilizer) for its rapid establishment.

TABLE 7. "TURF-TYPE" AND OTHER SIMILAR CULTIVARS OF PERENNIAL RYEGRASS AVAILABLE IN 1986 (see text on p.9)

Cultivar	Col. 1 Wear tolerance - high N (Note 1)	Col. 2 Wear tolerance - low N (Note 1)	Col. 3 Freedom from red thread	Col. 4 Shoot density	Col. 5 Short growth (A-E)
Elka	A	A	(C)	A	B
Loretta	A	A	(C)	B	B
Majestic	(A)	A	B	B	C
Arno	A	(A)	(C)	B	B
Barclay (Note 2)	A	(B)	(C)	A	B
Sprinter	A	(B)	B	B	C
Barry	A	B	(C)	B	B
Score	A	B	B	(B)	D
Manhattan	A	A	C	B	C
Lorina (Note 2)	(B)	(A)	C	A	A
Trimmer	A	(A)	(C)	(B)	C
Hunter	B	(A)	(B)	B	B
Idole (Note 2)	(B)	(B)	(B)	A	B
Bellatrix	B	(B)	(A)	(B)	(C)
Outsider (LA)	(A)	-	(C)	(B)	(C)
Derby	B	A	(B)	B	D
Brenda (LA)	B	A	(A)	(B)	(B)
Wendy	B	A	A	(C)	D
Lucretia	(B)	(B)	(C)	(B)	(B)
Ensporta	(B)	(B)	C	(B)	C
Royal	C	(B)	(B)	B	C
Pippin	B	C	B	(B)	D
Bianca	(B)	(C)	(B)	(B)	D
Pennfine	C	C	B	B	D
Player (LA)	(C)	(C)	B	(C)	(D)
Salone (LA)	(C)	-	(C)	(C)	(C)
Aber. S.23 (Note 3)	C	C	A	C	E

FEATURES OF IMPORTANCE FOR VARIOUS USES (● = MOST IMPORTANT)

Intensively managed pitches	●		●	○	
Close-mown sports turf	●		●	●	●
Lower-maintenance sports turf		●	●	○	●
Low-wear ornamental turf			●	○	●
Minimal maintenance amenity areas		○	●		●

Note 1. Most of the trials from which these ratings were obtained received 250 kg/ha per year for "high N", and up to 75 kg/ha per year for "low N". Ratings in cols. 1 and 2 apply only within columns, not between columns.

Note 2. These cultivars have done well under trial treatments, but have not yet been used much in practice or tested in STRI trials on pitches.

NB. There are often several cultivars of virtually equal merit for any particular use: final choice can be made according to price or other commercial factors.

Col. 6 Fine- ness of leaf	Col. 7 Clean- ness of cut	Col. 8 Winter green- ness	Col. 9 Winter hardi- ness	Col. 10 Heading group (Note 4)	Col. 11 Maintainer and UK agent
A	A	C	(A)	L	Cebeco (Hurst)
B	A	B	(A)	L	Steinach (Br. Seed Ho.)
B	A	(B)	(A)	I/L	Mommersteeg
B	B	(B)	(A)	I/L	vd Have (Johnson)
A	A	(C)	(B)	VL	Barenbrug (Goldsmith)
C	B	(A)	A	VL	Zwaan (Picard)
(A)	A	(B)	(B)	I/L	Barenbrug (Goldsmith)
A	C	(B)	(B)	L	Zwaan (Picard)
C	B	(C)	A	I/L	v Engelen (Pope)
(A)	A	(B)	-	VL	Steinach (Br. Seed Ho.)
(B)	B	(B)	(A)	L	vd Have (Sharpe)
B	B	(B)	(A)	L	Cebeco (Hurst)
A	B	C	(C)	L	Vilmorin (Cundy)
(B)	A	(A)	(A)	L/VL	Cebeco (Hurst)
(B)	-	(B)	(A)	(I)	Mommersteeg
B	(B)	A	(B)	E	Int. Seeds (Br. Seed Ho.)
(B)	(C)	(B)	(B)	E	vd Have (Sharpe)
(C)	B	(B)	A	L	vd Have (Johnson/Sharpe)
(B)	B	(A)	-	L	Petersen (Pope)
(B)	C	(A)	C	I/L	v Engelen (Pope)
B	B	(B)	(C)	E	Mommersteeg
(B)	A	(B)	(A)	L	Danish PB
B	(B)	B	(C)	I	vd Have (Mommersteeg)
B	B	B	B	E	v Engelen (Pope)
(B)	(B)	(B)	(B)	L	Cebeco (Hurst)
(B)	-	(C)	(B)	VL	Danish PB
C	C	B	C	L	NSDO (Picard/Sharpe)
	○	○	○ (5)		Intensively managed pitches
●	○		○ (5)		Close-mown sports turf
	○	○	○ (5)		Lower-maintenance sports turf
●	●		○ (5)		Low-wear ornamental turf
	○		○ (5)	○ (6)	Minimal maintenance amenity areas

Note 3. 'Aberystwyth S.23' is included primarily for comparison.

Note 4. E = early, I = intermediate, L = late, VL = very late.

Note 5. For northern parts of the UK.

Note 6. L or VL preferable, as heads probably fewer and less conspicuous.

NAMES AND ADDRESSES OF UK AGENTS

Br. Seed Ho.	British Seed Houses Ltd., Bewsey Industrial Estate, Pitt St., Warrington, Cheshire, WA5 5LE.
Cundy	Cundy & Son Ltd., Church Street, Triplow, Nr. Royston, Herts., SG8 7RE.
Danish PB	Danish Plant Breeding, Didbrook Fields, Toddington, Nr. Cheltenham, Glos. GL54 5PE.
Donath	Donath Seeds Ltd., Avonmouth Way, Avonmouth, Bristol, BS11 9LU.
Farmacre	Farmacre Seeds Ltd., Tilston Close, Tilston, Malpas, Cheshire, SY14 7HQ.
Goldsmith	Goldsmith Seeds Ltd., PO Box 2, Rougham Industrial Estate, Bury St. Edmunds, Suffolk, IP30 9ND.
Hurst	Hurst Gunson Cooper Taber Ltd., Avenue Road, Witham, Essex, CM8 2DX.
Johnson	W.W. Johnson & Son Ltd., Boston, Lincs., PE21 8AD.
Miln Marsters	The Miln Marsters Group Ltd., Docking, King's Lynn, Norfolk, PE31 8LA.
Mommersteeg	Mommersteeg International Ltd., Station Road, Finedon, Wellingborough, Northants., NN9 5NT.
Nickerson	Nickerson RPB Ltd., Joseph Nickerson Research Centre, Rothwell, Lincoln, LN7 6DT.
Picard	J. Picard & Co. (Seed Merchants) Ltd., Central House, 32-66 High Street, London, E15 2PD.
Pope	Pope & Chapman Ltd., 13-19 Hockerill Street, Bishop's Stortford, Herts., CM23 2DH.
Sharpe	Charles Sharpe & Co. PLC, Sleaford, Lincs., NG34 7HA.
Sinclair	Sinclair, McGill PLC, Marsh Lane, Boston, Lincs., PE21 7RR.
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